Admin Schedule Line #_____

Demonstration Booklet 2000 — Grade 8

Mathematics and Science

NAEP 2000 The Nation's Report Card

School and Teacher Information

SCHOOL # | TEACHER # | PERIOD #

Birth Date				Sex	R/E	NSLP	Title I	SD	LEP	Admin Code	
		1	9								
Month		Year		1 = Male 2 = Female							
0	0		1983		1	1	Y	Y	Y	1	0
1	1		1984		2	2	N	N	N	2	1
	2		1985		3	3				3	2
	3		1986		4	4				4	3
	4		1987		5	5				5	4
	5		1988		6	6				6	5
	6		1989							7	6
	7										7
	8										8
	9										9

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ETS

DEMONSTRATION BOOKLET GRADE 8

MATHEMATICS AND SCIENCE

NAEP 2000

NAEP 2000 ASSESSMENT
NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS
MATHEMATICS AND SCIENCE
EIGHTH GRADE

TABLE OF CONTENTS

A MESSAGE FOR SCHOOL STAFF MEMBERS

On behalf of the NAEP project team, I want to thank you and other members of your school system for agreeing to participate in the NAEP assessment. Your participation is essential and valued. NAEP's benchmark data about student achievement and instructional emphases are widely used for staff development, curriculum planning, and research on student performance. Your voluntary assistance enhances a cooperative partnership with school leaders across the country who believe that information about this nation's educational progress is a critical ingredient for public and professional discussion about policy and direction. Your assistance also contributes to our success in measuring what students know and can do.

This demonstration booklet illustrates the kinds of exercises or test questions and tasks used in this assessment of student achievement in mathematics and science. Each student will be asked to complete the background section and the cognitive sections for one subject. The length of the assessment will require about 90 minutes of a student's time.

This booklet is divided into three parts. Part one contains a description of the mathematics assessment, followed by the booklet directions, sample questions, and the background questionnaire that is included in mathematics test booklets. Part two contains the same information for the science assessment, in addition to directions for completing the background questionnaire for science.

Students will be asked about their racial and ethnic their background, parents' level of education, the number of educational materials in the home, and the amount of time they spend on homework each day. Questionnaires also address how the subject matter is taught, the materials and resources the students use, and whether the students believe the particular subject matter is useful in their lives and for the future. This information is confidential, as student names never leave the school.

The samples of mathematics and science questions are representative of those in the assessment. Although the actual questions in the assessment must be safeguarded to maintain the integrity of the assessment and resulting data, the sample items are intended to convey the kinds of questions and formats that are part of the assessment.

The third part of the booklet is located on the back cover and contains information about the program's purpose and how to obtain access to NAEP questions for further review.

Again, the project team appreciates your willingness to allow NAEP to conduct the assessment at your institution.

Peggy G. Carr, Associate Commissioner
Education Assessment
National Center for Education Statistics

THE MATHEMATICS ASSESSMENT

The NAEP mathematics assessment is based on the National Council of Teachers of Mathematics (NCTM) *Standards.* The specifications focus on five broad content strands of mathematical content: Number Sense, Properties, and Operations; Measurement; Geometry and Spatial Sense; Data Analysis, Statistics, and Probability; and Algebra and Functions. Items are classified according to the major area(s) they address, including both mathematical abilities and mathematical power. Mathematical power consists of math abilities (conceptual understanding, procedural knowledge, and problem solving) within a broader context of reasoning, connections, and communications.

The 2000 NAEP assessment embraces a comprehensive view of mathematics and is based on a model that provides a more holistic and integrated view of school mathematics, requiring students to form networks of connections among mathematical ideas and skills.

The exercise types include multiple-choice items, grid-in items, short-answer open-ended questions, and extended open-ended tasks. These extended exercises allow students to communicate their ideas and demonstrate the reasoning they used to solve problems.

MATHEMATICS BOOKLET DIRECTIONS

This assessment uses many different booklets each with different questions. Do not worry if the person next to you is working on questions that do not look like those you are working on.

Read each question carefully and answer it as well as you can. Do not spend too much time on any one question.

Each booklet has several parts. You will be helped with the first part and will complete the other parts on your own. You will be told when to begin each part.
Stop when you see this sign.

If you finish a part early, you may check your work on that part only. Do not begin another part until you are told to continue.

Now read sample 1. The choices for some questions will be written across the page as shown. Fill in the oval for the best answer.

SAMPLE 1

	Almost every day	Once or twice a week	Once or twice a month	Never or hardly ever
1. How often do you watch movies on TV?	Ⓐ	Ⓑ	Ⓒ	Ⓓ

There is no correct answer to this question. Your answer will tell us how often you watch movies on TV.

Now read sample 2. Fill in the oval for the choice that you think is correct.

SAMPLE 2

2. How many minutes are there in 2 hours?

Ⓐ 12

Ⓑ 24

Ⓒ 60

Ⓓ 120

You should have filled in the oval for "120" because there are 120 minutes in 2 hours.

Now read sample 3 and write your answer on the blank line below.

SAMPLE 3

3. What kind of music do you like best?

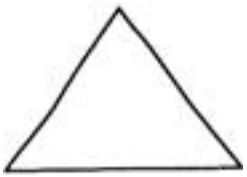
   (Write in.) _____

You should answer this question by writing the kind of music you like best. Sometimes there will be more than one line on which to write your answer. Use as many lines as you need for your answer.

Now read sample 4. For some of the questions you may need to write or draw the answer. You can see how this is done in sample 4.

SAMPLE 4

4. Draw a triangle in the space below.



REMEMBER:

Read each question CAREFULLY.

Fill in only ONE OVAL for each question or write your answer in the space provided.

If you change your answer, ERASE your first answer COMPLETELY.

CHECK OVER your work if you finish a section early.

SAMPLE QUESTIONS

1. Of the following, which is the best unit to use when measuring the growth of a plant every other day during a 2-week period?

(A) Centimeter

(B) Meter

(C) Kilometer

(D) Foot

(E) Yard

HW000842

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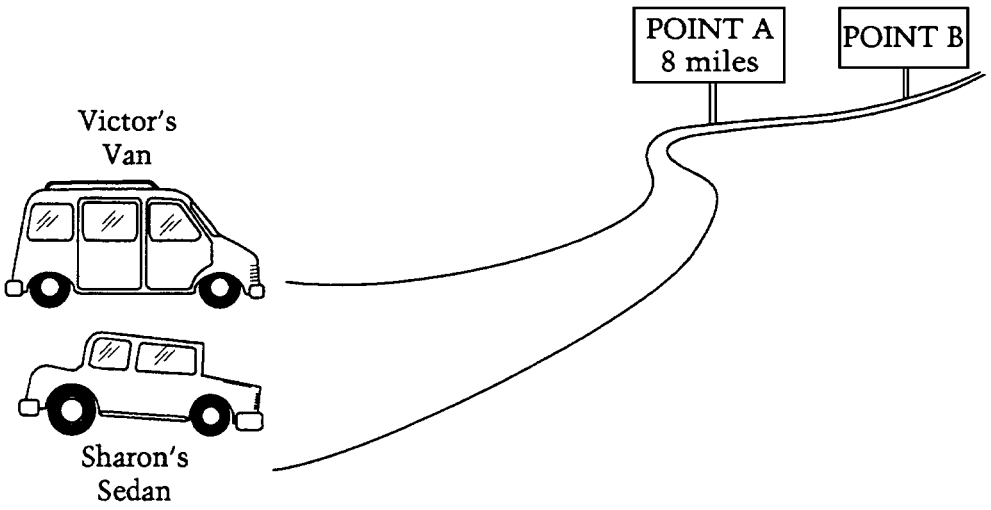


2. Victor's van travels at a rate of 8 miles every 10 minutes. Sharon's sedan travels at a rate of 20 miles every 25 minutes.

If both cars start at the same time, will Sharon's sedan reach point A, 8 miles away, before, at the same time, or after Victor's van?

Explain your reasoning.

_____

_____

_____

If both cars start at the same time, will Sharon's sedan reach point B (at a distance further down the road) before, at the same time, or after Victor's van?

Explain your reasoning.

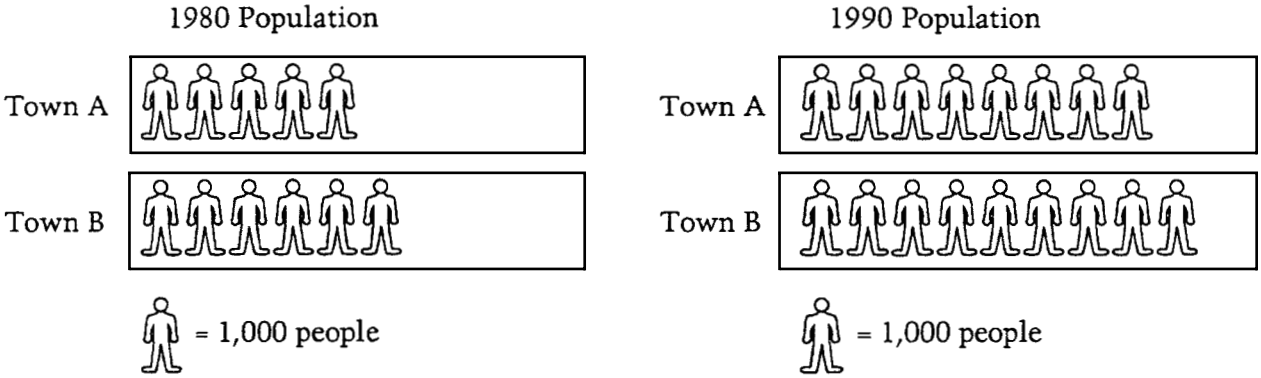
_____

_____

_____

AP000717

GO ON TO THE NEXT PAGE



3. In 1980, the populations of Town A and Town B were 5,000 and 6,000, respectively. The 1990 populations of Town A and Town B were 8,000 and 9,000, respectively.

Brian claims that from 1980 to 1990 the populations of the two towns grew by the same amount. Use mathematics to explain how Brian might have justified his claim.

Darlene claims that from 1980 to 1990 the population of Town A had grown more. Use mathematics to explain how Darlene might have justified her claim.

HW000863

GO ON TO THE NEXT PAGE

4. A plumber charges customers \$48 for each hour worked plus an additional \$9 for travel. If h represents the number of hours worked, which of the following expressions could be used to calculate the plumber's total charge in dollars?

   (A) $48 + 9 + h$

   (B) $48 \times 9 \times h$

   (C) $48 + (9 \times h)$

   (D) $(48 \times 9) + h$

   (E) $(48 \times h) + 9$

N255101

5. Jaime knows the following facts about points A, B, and C.

   - Points A, B, and C are on the same line, but might not be in that order.
   - Point C is twice as far from point A as it is from point B.

   Jaime concluded that point C is always between points A and B.

   Is Jaime's conclusion correct?

   (A) Yes (B) No

   In the space provided, use a diagram to explain your answer.

Y002259

GENERAL BACKGROUND QUESTIONNAIRE

This section has 20 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

TB003001

1. Which best describes you?

   (A) White (not Hispanic)

   (B) Black (not Hispanic)

   (C) Hispanic ("Hispanic" means someone who is from a Mexican, Mexican American, Chicano, Puerto Rican, Cuban, or other Spanish or Hispanic background.)

   (D) Asian or Pacific Islander ("Asian or Pacific Islander" means someone who is from a Chinese, Japanese, Korean, Filipino, Vietnamese, or other Asian or Pacific Island background.)

   (E) American Indian or Alaskan Native ("American Indian or Alaskan Native" means someone who is from one of the American Indian tribes, or one of the original people of Alaska.)

   (F) Other (specify) _____

TB003101

2. If you are Hispanic, what is your Hispanic background?

   (A) I am not Hispanic.

   (B) Mexican, Mexican American, or Chicano

   (C) Puerto Rican

   (D) Cuban

   (E) Other Spanish or Hispanic background

LC000006

3. How long have you lived in the United States?

   (A) All my life

   (B) More than 5 years but not all my life

   (C) 3–5 years

   (D) Less than 3 years

TB003201

4. How often do the people in your home speak a language other than English?

   (A) Never

   (B) Sometimes

   (C) Always

TB003501

5. How far in school did your mother go?

   (A) She did not finish high school.

   (B) She graduated from high school.

   (C) She had some education after high school.

   (D) She graduated from college.

   (E) I don't know.

TB003601

6. How far in school did your father go?

   (A) He did not finish high school.

   (B) He graduated from high school.

   (C) He had some education after high school.

   (D) He graduated from college.

   (E) I don't know.

TB000901

7. Does your family get a newspaper regularly?

   (A) Yes

   (B) No

   (C) I don't know.

TB000903

8. Is there an encyclopedia in your home?

   (A) Yes

   (B) No

   (C) I don't know.

TB000904

9. Are there more than 25 books in your home?

   (A) Yes

   (B) No

   (C) I don't know.

TB000905

10. Does your family get any magazines regularly?

    (A) Yes

    (B) No

    (C) I don't know.

TB001801

11. How much television do you usually watch each day?

(A) None

(B) 1 hour or less

(C) 2 hours

(D) 3 hours

(E) 4 hours

(F) 5 hours

(G) 6 hours or more

TB006601

12. How much time do you usually spend on homework each day?

(A) I don't usually have homework assigned.

(B) I have homework but I don't usually do it.

(C) 1/2 hour or less

(D) 1 hour

(E) More than 1 hour

TB001101

13. About how many pages a day do you have to read in school and for homework?

(A) More than 20

(B) 16–20

(C) 11–15

(D) 6–10

(E) 5 or fewer

TS004001

14. How many days of school did you miss last month?

(A) None

(B) 1 or 2 days

(C) 3 or 4 days

(D) 5 to 10 days

(E) More than 10 days

HE000712

15. Within the past two years, how many times have you changed schools because you changed where you lived?

(A) None

(B) 1

(C) 2

(D) 3 or more

HE000717

16. How often do you discuss things you have studied in school with someone at home?

(A) Almost every day

(B) Once or twice a week

(C) Once or twice a month

(D) Never or hardly ever

HE002795

17. How often do you use a computer at home for schoolwork?

(A) Almost every day

(B) Once or twice a week

(C) Once or twice a month

(D) Never or hardly ever

(E) There is no computer at home.

ID110020

18. Do you use the Internet at home?

(A) Yes

(B) No

HE002541

19. How safe do you feel at school?

(A) Very safe

(B) Somewhat safe

(C) Somewhat unsafe

(D) Very unsafe

QK070697

20. How much education do you think you will complete?

(A) I will not finish high school.

(B) I will graduate from high school.

(C) I will have some education after high school.

(D) I will graduate from college.

(E) I will go to graduate school.

(F) I don't know.

STOP

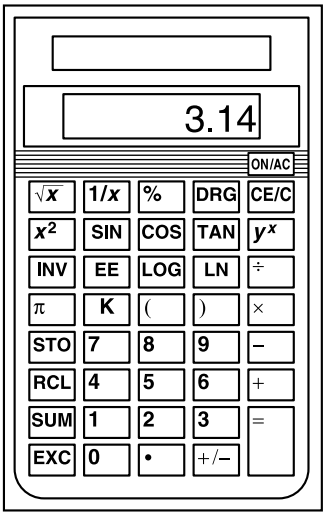
MATHEMATICS BACKGROUND QUESTIONNAIRE

This section has 10 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

UH000080

1. When you do mathematics in school, how often do you do each of the following? Fill in only **one** oval on each line.

	Almost Every Day	Once or Twice a Week	Once or Twice a Month	Never or Hardly Ever	
a. Do mathematics problems from textbooks	A	B	C	D	TM810101
b. Solve mathematics problems with a partner or in small groups	A	B	C	D	HE002478
c. Work with measuring instruments or geometric solids	A	B	C	D	TM810104
d. Write a few sentences about how you solved a mathematics problem	A	B	C	D	TM810109
e. Talk with other students during class about how you solved mathematics problems	A	B	C	D	QK070695
f. Use a computer	A	B	C	D	TM810106
g. Use a calculator	A	B	C	D	TM810105

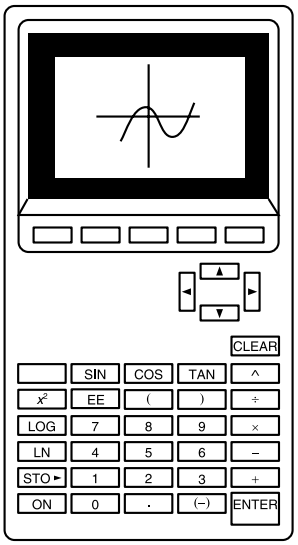


HE002484

2. A calculator like the one shown above is a scientific calculator. It has keys with labels YX, LN, ã, COS. Do you use a scientific calculator for your mathematics schoolwork?

   (A) Yes

   (B) No

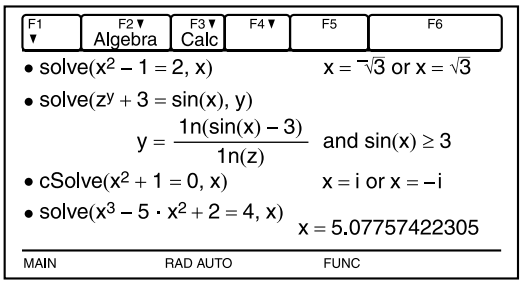


HE002485

3. A calculator like the one shown above is a graphing calculator. It can draw a graph in the viewing window. Do you use a graphing calculator for your mathematics schoolwork?

   (A) Yes

   (B) No



ID110100

4. A calculator that can do what is shown above is called a symbol manipulator or a computer algebra system. It can work with algebraic expressions directly, and it also has all the functions of graphing calculators. Do you use a symbol manipulator for your mathematics schoolwork?

   (A) Yes

   (B) No

LC000518

5. For mathematics, how often do you use a calculator for each of the following activities? Fill in **one** oval on each line.

	Almost Every Day	Once or Twice a Week	Once or Twice a Month	Never or Hardly Ever	
a. Classwork	(A)	(B)	(C)	(D)	LC000519
b. Homework	(A)	(B)	(C)	(D)	LC000520

QK070698

6. How often does your teacher let you use a calculator for tests or quizzes?

   (A) Always

   (B) Sometimes

   (C) Never

QK070701

7. What mathematics class are you taking this year?

   (A) Eighth-grade mathematics

   (B) Prealgebra

   (C) First-year algebra

   (D) Geometry

   (E) Second-year algebra

   (F) Integrated or sequential mathematics

   (G) Other mathematics class

QK070700

8. What mathematics class do you expect to take in ninth grade?

   (A) Basic, general, business, or consumer mathematics

   (B) Applied mathematics (technical preparation)

   (C) Prealgebra

   (D) First-year algebra

   (E) Geometry

   (F) Second-year algebra

   (G) Integrated or sequential mathematics

   (H) Other mathematics class

   (I) I don't know.

QK070705

9. About how much time do you usually spend each day on mathematics homework?

   (A) None

   (B) 15 minutes

   (C) 30 minutes

   (D) 45 minutes

   (E) One hour

   (F) More than one hour

HE000659

10. How much do you agree with each of the following statements? Fill in **one** oval on each line.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
a. I like mathematics.	(A)	(B)	(C)	(D)	(E)	TM810701
b. I am good at mathematics.	(A)	(B)	(C)	(D)	(E)	LD001476
c. I understand most of what goes on in mathematics class.	(A)	(B)	(C)	(D)	(E)	HE000369
d. There is only one correct way to solve a mathematics problem.	(A)	(B)	(C)	(D)	(E)	LD001473
e. Learning mathematics is mostly memorizing facts.	(A)	(B)	(C)	(D)	(E)	HE000631
f. Mathematics is useful for solving everyday problems.	(A)	(B)	(C)	(D)	(E)	TM810705
g. All students can do well in mathematics if they try.	(A)	(B)	(C)	(D)	(E)	QK070699

This section has 3 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

QK070694

1. How hard did you try on this test?

   Ⓐ Much harder than on other mathematics tests

   Ⓑ Harder than on other mathematics tests

   Ⓒ About as hard as on other mathematics tests

   Ⓓ Not as hard as on other mathematics tests

LD001718

2. How important was it to you to do well on this mathematics test?

   Ⓐ Very important

   Ⓑ Important

   Ⓒ Somewhat important

   Ⓓ Not very important

ID110144

3. How strongly do you agree with the following statements? Fill in only **one** oval on each line.

	Strongly Agree	Agree	Disagree	Strongly Disagree	
a. Doing well in school is a goal of most students in my class.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	ID110146
b. To keep up with my friends, I have to work hard at my schoolwork.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	ID110147

THE SCIENCE ASSESSMENT

The NAEP science assessment is organized according to two major dimensions: the fields of science (Earth, Physical, and Life) and knowing and doing science (Conceptual Understanding, Scientific Investigation, and Practical Reasoning). In addition, embedded within both dimensions are three themes of science (Models, Systems, and Patterns of Change) and the Nature of Science.

The 2000 NAEP assessment in science contains multiple-choice questions as well as short and extended constructed-response exercises. These questions explore students' abilities to explain, integrate, apply, reason, plan, design, evaluate, and communicate. The constructed-response questions make up approximately 80 percent of the assessment time.

The assessment is made up of discrete questions; clusters of questions that test in-depth knowledge of a number of content areas including those contained within models, systems, and patterns of change; and performance-based tasks that probe students' abilities to make observations, perform investigations, evaluate experimental results, and apply problem-solving skills.

Each student who participates in the assessment will take two timed blocks of questions. In addition, half the sampled students will take a third timed block of questions consisting of a set of hands-on problem-solving tasks.

Distribution of NAEP Science Framework Assessment Time Across Field of Science

	Earth Science includes astronomy, geology, meteorology, and oceanography	**Physical Science** includes physics and chemistry	**Life Science** includes biology, health, and nutrition
Grade 4	**33%**	**33%**	**33%**
Grade 8	**30%**	**30%**	**40%**
Grade 12	**33%**	**33%**	**33%**

SCIENCE
BOOKLET DIRECTIONS, 1

Your book has either 4 or 5 sections. Sections 1 and 2 contain science questions; sections 3 and 4 ask questions about you and your classes. For those of you who have 5 sections, section 5 contains a hands-on science task. The administrator will tell you when to begin each section.

Do not go past the 

sign at the end of each section until you are told to do so.

If you finish a section before time is called, you may go back and check your work on that section only. Use your time carefully and answer as many questions as you can in each section.

In each of sections 1 and 2, you will have 30 minutes to answer a series of questions about science.

You will be asked to respond to several different types of questions. Some of the questions will require you to choose the best answer and fill in the oval for that answer in your booklet. On questions like this, be sure to mark your answers clearly and darken the oval completely. If you make a mistake or want to change your answer, be sure to erase any unwanted marks. Here is an example of a question that requires you to fill in an oval.

Example 1

James found that certain objects were attracted to a magnet. Which of these objects clung to his magnet?

Ⓐ Rubber band

Ⓑ Wooden toothpick

Ⓒ Plastic cup

● Steel paper clip

For some questions, you will be asked to write short answers on the blank lines provided in your booklet. Here is an example of a question that requires you to provide a short answer.

Example 2

Describe one important difference between plants and animals.

Most plants make their own food, while animals eat plants and other animals for food.

Also, you will be asked to answer some questions by writing longer, more detailed responses. For example, here is a question that requires you to provide a longer answer.

Example 3

Describe three things that animals do to survive in areas that have cold winters.

Some animals store a lot of fat so that they can go into a deep sleep all winter. Some animals grow a thick coat of fur to keep them warm. Some birds and butterflies fly away from a cold area and spend the winter in a place that is warm and has a lot of food.

When you are asked to write your response be sure that your handwriting is clear. Think carefully about each question and make your answers as complete as possible, using as many lines as you need.

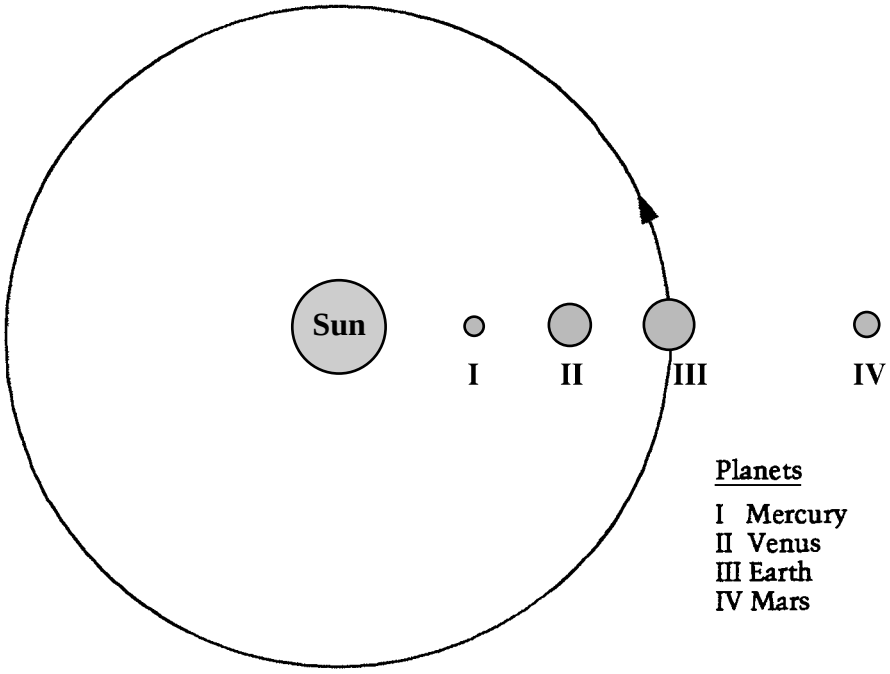
Finally, in some questions you may be asked to draw a diagram or fill in a table.

SCIENCE
BOOKLET DIRECTIONS, II

You will now work on section 5 in which you will be given a set of materials to do a science activity. You will have 30 minutes to do this activity and answer questions about it. The administrator will tell you when to begin the section.

SAMPLE QUESTIONS

The picture below illustrates a simplified model of part of the Solar System. The Sun and the four planets closest to the Sun are represented by the shaded figures. The Earth's orbit (the path that it takes as it moves around the Sun) is represented by the large circle and the arrow on this circle shows the direction in which the Earth moves. HE001310



1. Complete the simple model of the Solar System by drawing the paths that Mercury, Venus, and Mars take as they move around the Sun. Draw arrows on the paths to show the direction in which each moves. HE001311

GO ON TO THE NEXT PAGE

2. State two ways, other than the planets being in the correct order, in which this simple model is like the real Solar System. HE001313

3. Which of the following properties of the Earth is the result of the processes of living things?

   Ⓐ The Earth's oceans are salty.

   Ⓑ The Earth has magnetic poles.

   Ⓒ The Earth's atmosphere contains a lot of oxygen.

   Ⓓ The Earth's crust contains a lot of volcanic rock. JL001087

4. Raul's little sister, Sarah, wants to know why she can see herself in a mirror, but she can see through a window. What should Raul tell his sister to explain the differences between mirrors and windows?

HE001481

5. Hair color in humans is an inherited trait. How is it possible for two people who had brown hair from birth to produce a child with blond hair?

JL001033

GO ON TO THE NEXT PAGE

6. A certain organism has many cells, each containing a nucleus. If the organism makes its own food, it would be classified as

   Ⓐ a bacterium

   Ⓑ a fungus

   Ⓒ a plant

   Ⓓ an animal HE001824

7. An insulated bottle keeps a cold liquid in the bottle cold by

   Ⓐ destroying any heat that enters the bottle

   Ⓑ keeping cold energy within the bottle

   Ⓒ trapping dissolved air in the liquid

   Ⓓ slowing the transfer of heat into the bottle HE001728

SCIENCE BACKGROUND QUESTIONNAIRE DIRECTIONS

Sections 3 and 4 consist of background questions. In Section 3, you will answer questions about yourself and your education. Read each question carefully and fill in the oval beside the response that is true for you. Please read and answer the following sample question

How many movies did you see last month on television and in movie theaters?

Ⓐ None

Ⓑ 1 to 5

Ⓒ 6 to 10

Ⓓ More than 10

You should have filled in the oval beside the answer that is true for you.

In section 4 you will answer questions about your science instruction. Some questions are like the following example. Please read these two questions and fill in one oval beneath your answer to each question.

	Often	Sometimes	Never
How often do you read about science for fun?	Ⓐ	Ⓑ	Ⓒ
How often do you work on science projects in school?	Ⓐ	Ⓑ	Ⓒ

For each of these questions, you should have filled in the oval beneath the answer that is true for you.

STOP

GENERAL BACKGROUND QUESTIONNAIRE

This section has 20 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

TB003001

1. Which best describes you?

   (A) White (not Hispanic)

   (B) Black (not Hispanic)

   (C) Hispanic ("Hispanic" means someone who is from a Mexican, Mexican American, Chicano, Puerto Rican, Cuban, or other Spanish or Hispanic background.)

   (D) Asian or Pacific Islander ("Asian or Pacific Islander" means someone who is from a Chinese, Japanese, Korean, Filipino, Vietnamese, or other Asian or Pacific Island background.)

   (E) American Indian or Alaskan Native ("American Indian or Alaskan Native" means someone who is from one of the American Indian tribes, or one of the original people of Alaska.)

   (F) Other (specify)_____

TB003101

2. If you are Hispanic, what is your Hispanic background?

   (A) I am not Hispanic.

   (B) Mexican, Mexican American, or Chicano

   (C) Puerto Rican

   (D) Cuban

   (E) Other Spanish or Hispanic background

LC000006

3. How long have you lived in the United States?

   (A) All my life

   (B) More than 5 years but not all my life

   (C) 3–5 years

   (D) Less than 3 years

TB003201

4. How often do the people in your home speak a language other than English?

   (A) Never

   (B) Sometimes

   (C) Always

HE002514

5. How much education did your mother receive? ("Mother" can be a mother, stepmother, or female guardian.)

   (A) She did not finish high school.

   (B) She graduated from high school.

   (C) She had some education after high school.

   (D) She graduated from college.

   (E) I don't know.

HE002515

6. How much education did your father receive? ("Father" can be a father, stepfather, or male guardian.)

   (A) He did not finish high school.

   (B) He graduated from high school.

   (C) He had some education after high school.

   (D) He graduated from college.

   (E) I don't know.

HE002534

7. About how many books are in your home?

   (A) None

   (B) 1–10 (Few)

   (C) 11–25 (Enough to fill one shelf)

   (D) 26–100 (Enough to fill one bookcase)

   (E) More than 100 (Enough to fill several bookcases)

TB000901

8. Does your family get a newspaper regularly?

   (A) Yes

   (B) No

   (C) I don't know.

TB000903

9. Is there an encyclopedia in your home?

   (A) Yes

   (B) No

   (C) I don't know.

TB000905

10. Does your family get any magazines regularly?

    (A) Yes

    (B) No

    (C) I don't know.

TB001801

11. On a school day, about how many hours do you usually watch TV or videotapes outside of school hours?

Ⓐ None

Ⓑ 1 hour or less

Ⓒ 2 hours

Ⓓ 3 hours

Ⓔ 4 hours

Ⓕ 5 hours

Ⓖ 6 hours or more

TB006601

12. How much time do you usually spend on homework each day?

Ⓐ I don't usually have homework assigned.

Ⓑ I have homework but I don't usually do it.

Ⓒ 1/2 hour or less

Ⓓ 1 hour

Ⓔ More than 1 hour

QK070706

13. How many hours of additional reading do you do each week on your own outside school, NOT in connection with school work?

Ⓐ None

Ⓑ 1–2 hours

Ⓒ 3–4 hours

Ⓓ 5–6 hours

Ⓔ 7–8 hours

Ⓕ 9–10 hours

Ⓖ More than 10 hours

TS004001

14. How many days of school did you miss last month?

Ⓐ None

Ⓑ 1 or 2 days

Ⓒ 3 or 4 days

Ⓓ 5 to 10 days

Ⓔ More than 10 days

QK070707

15. Since you started first grade, how many times have you changed schools, not counting when you were promoted to the next grade?

(A) None

(B) 1

(C) 2

(D) 3

(E) 4

(F) 5

(G) 6

(H) 7 or more

HE002540

16. How often do you discuss things you have studied in school with someone at home?

(A) Almost every day

(B) Once or twice a week

(C) Once or twice a month

(D) Never or hardly ever

HE002795

17. How often do you use a computer at home for schoolwork?

(A) Almost every day

(B) Once or twice a week

(C) Once or twice a month

(D) Never or hardly ever

(E) There is no computer at home.

ID110020

18. Do you use the Internet at home?

(A) Yes

(B) No

HE002541

19. How safe do you feel at school?

(A) Very safe

(B) Somewhat safe

(C) Somewhat unsafe

(D) Very unsafe

QK070697

20. How much education do you think you will complete?

(A) I will not finish high school.

(B) I will graduate from high school.

(C) I will have some education after high school.

(D) I will graduate from college.

(E) I will go to graduate school.

(F) I don't know.

STOP

SCIENCE BACKGROUND QUESTIONNAIRE

This section has 16 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

HE002996

1. How much do you agree with the following statements? Fill in **one** oval on each line.

	Agree	Not Sure	Disagree	
a. I like science.	A	B	C	HE002997
b. I am good at science.	A	B	C	HE002998
c. Learning science is mostly memorizing.	A	B	C	HE002999
d. All students can do well in science if they try.	A	B	C	QK070708
e. Science is boring.	A	B	C	HE003003

HE003005

2. Have you ever done hands-on activities or projects in school with any of the following? Fill in **all** ovals that apply.

a. Living things (for example, plants, animals, bacteria) A HE003006

b. Electricity (for example, batteries and flashlight bulbs) A HE003007

c. Chemicals (for example, mixing or dissolving sugar or salt in water) A HE003008

d. Rocks or minerals (for example, identifying types) A HE003009

e. Magnifying glass or microscope (for looking at small things) A HE003010

f. Thermometer or barometer (for making measurements) A HE003011

g. Simple machines (for example, pulleys and levers) A HE003012

h. None of the above A HE003013

LC000166

3. Which best describes the science course you are taking?

   (A) I am not taking a science course this year.

   (B) Life science (for example, biology)

   (C) Physical science (for example, physics or chemistry)

   (D) Earth science (for example, geology or astronomy)

   (E) General science (several content areas of science taught separately)

   (F) Integrated science (several content areas of science combined and taught together throughout the year)

WO001050

4. If you are taking a science course this year, about how much time do you spend doing science homework each week?

   (A) I am not taking a science course.

   (B) None

   (C) 1/2 hour

   (D) 1 hour

   (E) 2 hours

   (F) 3 hours

   (G) More than 3 hours

LC000147

5. Do you ever do science projects in school that take a week or more?

   (A) Yes

   (B) No

WO001032

6. In the last two years, have you participated in a science fair, festival, or special science day?

   (A) Yes

   (B) No

QK070714

7. When you do science experiments or investigations in school, do you use a lab book or notebook for keeping your records, logs, and comments?

   (A) I am not taking science this year.

   (B) Yes

   (C) No

   (D) I don't know

QK070681

8. About how often do you do each of the following in your class? Fill in only **one** oval on each line.

	I am Not Taking Science	Once a Month or More	Sometimes but Less than Once a Month	Never	
a. Design **your own** science experiment or investigation	Ⓐ	Ⓑ	Ⓒ	Ⓓ	QK070682
b. Carry out the science experiment or investigation you designed	Ⓐ	Ⓑ	Ⓒ	Ⓓ	QK070683
c. Write up the results of the experiment or investigation you designed	Ⓐ	Ⓑ	Ⓒ	Ⓓ	QK070684
d. Talk to the class about the results of your experiment or investigation	Ⓐ	Ⓑ	Ⓒ	Ⓓ	QK070685

QK070686

9. When you work on science experiments or investigations do you usually work with other students?

Ⓐ I am not taking science this year.

Ⓑ Yes

Ⓒ No

Ⓓ We do not do science experiments or investigations in class.

QK070687

10. In your science class this year, does your teacher ask you to make comments or suggestions about other students' experiments or investigation?

Ⓐ I am not taking science this year.

Ⓑ Yes

Ⓒ No

Ⓓ We do not do science experiments or investigations in class.

QK070688

11. If you are taking a science class this year, about how often did you use a computer to do the following? Fill in only **one** oval on each line.

	I am Not Taking Science	Once a Month or More	Sometimes but Less than Once a Month	Never	
a. Collect data using lab equipment that interfaces with computers (for example, probes)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	QK070690
b. Download data and related information from the Internet	Ⓐ	Ⓑ	Ⓒ	Ⓓ	QK070689
c. Analyze data using the computer	Ⓐ	Ⓑ	Ⓒ	Ⓓ	QK070691
d. Use the Internet to exchange information with other students or scientists about science experiments or investigations	Ⓐ	Ⓑ	Ⓒ	Ⓓ	QK070692

QK070709

12. How hard was this test compared to most other science tests you have taken this year in school?

Ⓐ Much harder than other science tests

Ⓑ Harder than other science tests

Ⓒ About as hard as other science tests

Ⓓ Easier than other science tests

QK070710

13. How hard did you try on this test compared to how hard you tried on most other science tests you have taken this year in school?

Ⓐ Much harder than on other science tests

Ⓑ Harder than on other science tests

Ⓒ About as hard as on other science tests

Ⓓ Not as hard as on other science tests

QK070711

14. How important was it to you to do well on this science test?

(A) Very important

(B) Important

(C) Somewhat important

(D) Not very important

QK070712

15. This year in school, how often have you been asked to write long answers to questions on tests or assignments for science?

(A) At least once a week

(B) Once or twice a month

(C) Once or twice this year

(D) Never

ID110144

16. How strongly do you agree with the following statements? Fill in only **on**e oval on each line.

	Strongly Agree	Agree	Disagree	Strongly Disagree	
a. Doing well in school is a goal of most students in my class.	(A)	(B)	(C)	(D)	ID110146
b. To keep up with my friends, I have to work hard at my schoolwork.	(A)	(B)	(C)	(D)	ID110147

STOP

National Assessment of Educational Progress
2000 Assessment
Mathematics and Science

Information about National Assessment of Educational Progress

PROJECT MISSION. NAEP is authorized by Congress and directed and funded by the U.S. Department of Education (National Center for Education Statistics) to report on what American students know and can do in key academic subjects. It has produced more than 200 reports in its 30-year history, chronicling trends over time in the performance of 9-, 13-, and 17-year-old and fourth-, eighth-, and twelfth-grade students. The results are reported in the aggregate for large groups; no student or school data are reported. Information is reported by average proficiency; racial/ethnic and gender status; region; type of school; parent's education level; teachers' emphases; and a variety of home and school supports for learning. It is important to note that student participation is voluntary and confidential. No student's names are ever removed from the school.

THE CONTENT OF NAEP. By law, for each subject assessed, the National Assessment Governing Board (NAGB) manages the development of frameworks detailing what students reasonably might be expected to know and do. These frameworks are the "blueprints" for developing tasks that measure the content specified. Schools selected for the 2000 assessment will receive NAEP's frameworks for mathematics and science. For information on additional framework development, please contact Mary Crovo of the National Assessment Governing Board at 202–357–6941.

EXAMINATION OF SECURE NAEP ITEMS. Within the limits of staff and resources, procedures have been developed that will enable small groups of members of the public to review the NAEP questions that will be administered in 2000. These arrangements must be made in advance of the local administration date(s) so that sufficient materials can be available and interested persons can be notified about the location and time of the examination. Those persons reviewing the assessment may not, however, remove the booklets from the room, copy them, or take notes. These requests may be made to the NAEP data collection staff, or by contacting the National Center for Education Statistics at 202–219–1831.

OBTAINING NAEP QUESTIONS. Most NAEP questions and tasks are not generally released to the public, because these materials are reused in future assessments, and thus must be kept secure if the project is to accurately report trends in academic performance. However, a portion of each assessment is designated for public release and each NAEP report contains a sample of actual test questions. The questions released for public and research use can be obtained from the National Center for Education Statistics, NAEP Released Exercises, 555 New Jersey Avenue, NW, Washington, DC 20208–5653. Also, previously released questions may be viewed on and downloaded from the NCES Web site at http://nces.ed.gov/nationsreportcard.

FOR FURTHER INFORMATION. For prompt field staff support on the above-mentioned matters, or any other concerns, please call 800–283–6237.